

European Conference for Socio Professional Rehabilitation

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Adapting the Work Disability Functional Assessment Battery (WD-FAB) to the German Language and Calibrating its Items for Computer Adaptive Testing

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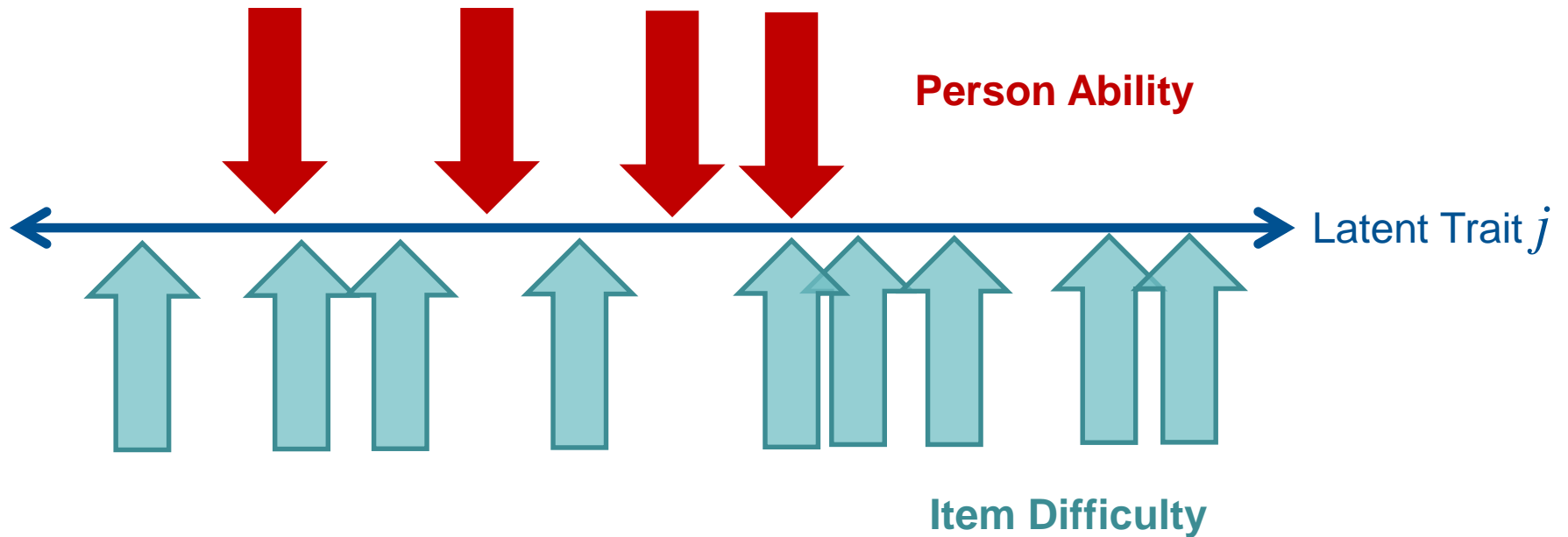
in cooperation with the

German Statutory Pension Insurance Scheme

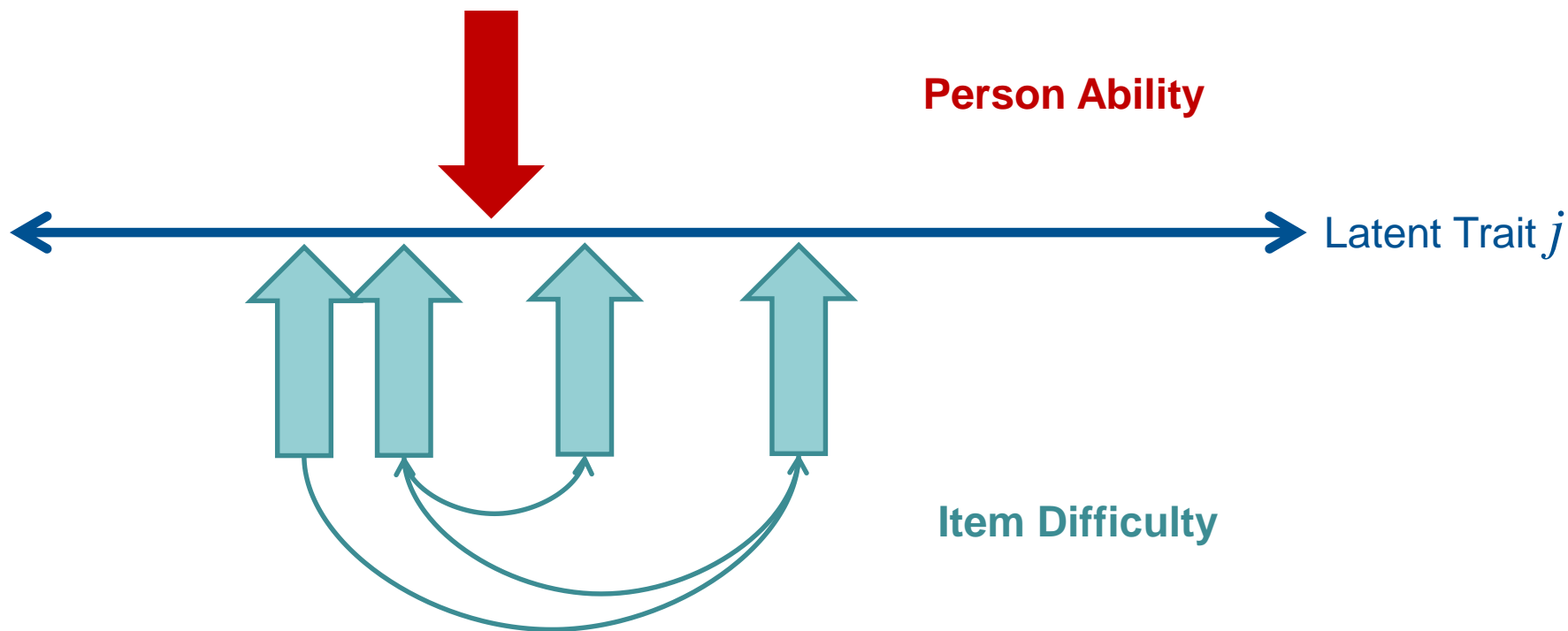
Work Disability Functional Assessment Battery (WD-FAB)

- Developed by the Boston University of Public Health, National Institutes of health (NIH) for the Social Security Administration
 - to assess functional capacity with respect to work ability
- Conceptual model follows the WHO ICF concept
- 386 items in item bank, covering 8 (+1) dimensions
- Self-completed instrument, administered using Computer Adaptive Testing (CAT)

Item Response Theory



Item Response Theory



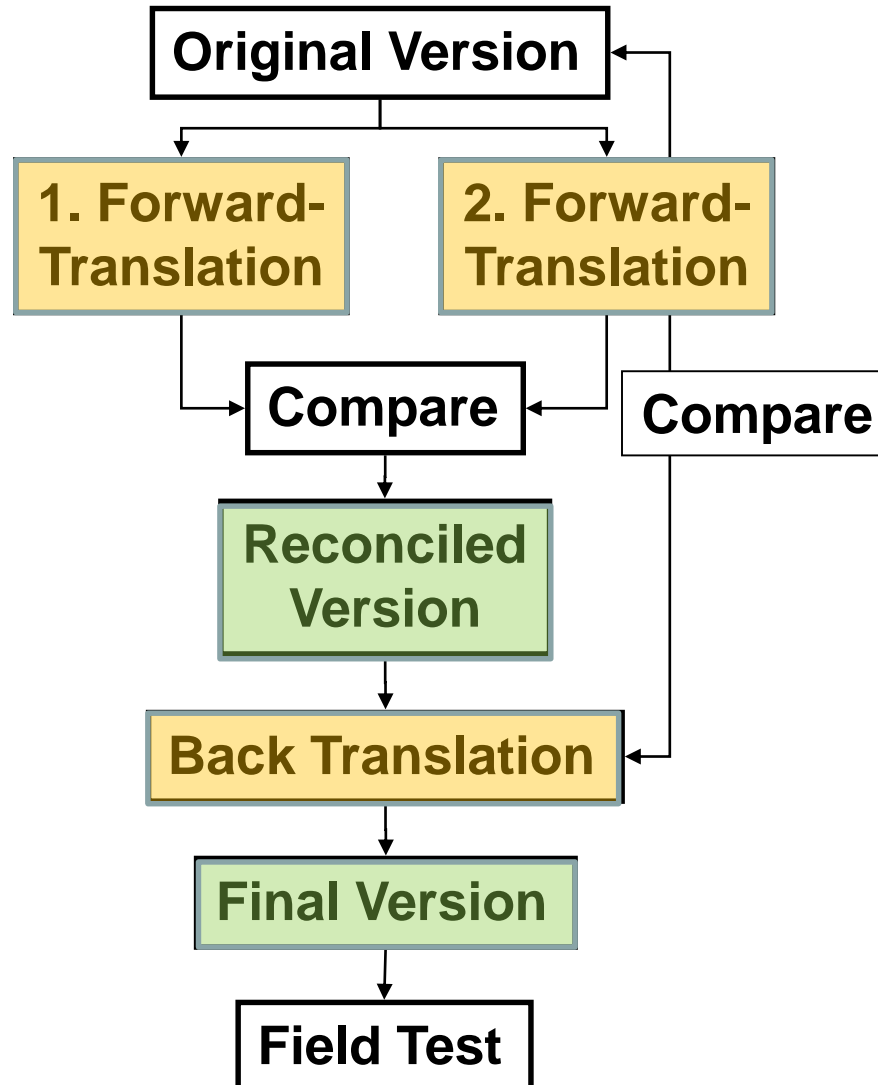
Translation & Adaptation

Guillemin F, Bombardier C, Beaton D. Cross-cultural adaptation of health-related quality of life measures: literature review and proposed guidelines.
J Clin Epidemiol 1993.

Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures.
Spine 2000.

http://www.who.int/substance_abuse/research_tools/translation/en/

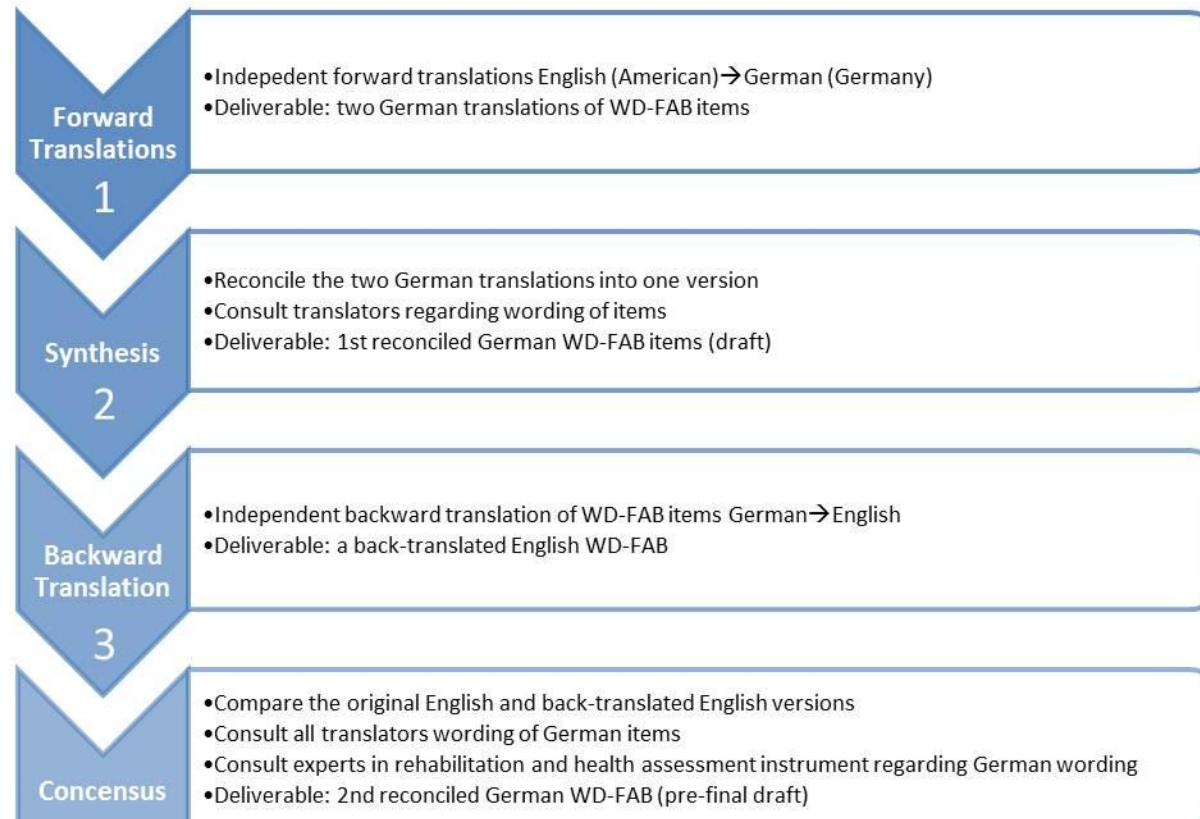
Translation & Adaptation



Phase 1: Translation & Adaptation



Phase 1: Translation & Adaptation



• Test the German WD-FAB items with patients in Germany (n=10 – 15 per item)

• Debrief patients and identify problems with wording and clarity

• Revise draft to finalize the wording of WD-FAB items

• Deliverable: finalized German WD-FAB item bank

Physical Functioning

Basic Mobility
69 Items

Upper Body Function
38 Items

Upper Extremity Fine
Motor
51 Items

Community Mobility
11 Items

- Survey contain a subset of dimensions to reduce burden to respondents
- A mix of physical and mental health domains
- Relatively balanced in terms of total items per survey

Mental Health Functioning

Communication
Cognition
68 Items

Resilience &
Sociability
34 Items

Mood & Emotions
34 Items

Interpersonal
Interactions
34 Items

Data Collection & Item Bank Validation

141	Basic Mobility 69 Items	Upper Body Function 38 Items	Resilience & Sociability 34 Items	
141	Basic Mobility 69 Items	Upper Body Function 38 Items	Interpersonal Interactions 34 Items	
137	Basic Mobility 69 Items	Mood & Emotions 34 Items	Resilience & Sociability 34 Items	
137	Basic Mobility 69 Items	Mood & Emotions 34 Items	Interpersonal Interactions 34 Items	
140	Communication Cognition 68 Items	Upper Body Function 38 Items	Resilience & Sociability 34 Items	
140	Communication Cognition 68 Items	Upper Body Function 38 Items	Interpersonal Interactions 34 Items	
136	Communication Cognition 68 Items	Mood & Emotions 34 Items	Resilience & Sociability 34 Items	
136	Communication Cognition 68 Items	Mood & Emotions 34 Items	Interpersonal Interactions 34 Items	
134	Upper Extremity Fine Motor 51 Items	Upper Body Function 38 Items	Resilience & Sociability 34 Items	Community Mobility 11 Items
134	Upper Extremity Fine Motor 51 Items	Upper Body Function 38 Items	Interpersonal Interactions 34 Items	Community Mobility 11 Items
130	Upper Extremity Fine Motor 51 Items	Mood & Emotions 34 Items	Resilience & Sociability 34 Items	Community Mobility 11 Items
130	Upper Extremity Fine Motor 51 Items	Mood & Emotions 34 Items	Interpersonal Interactions 34 Items	Community Mobility 11 Items

+

Work Ability Index
14 Items

EQ-5D-5L
6 Items

Socio-Demographic

Data Collection & Item Bank Validation

141	Basic Mobility 69 Items	Upper Body Function 38 Items	Resilience & Sociability 34 Items	
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- 1000 responses dimension
- 250 responses each version
- 12 versions
- 3000 total
- Recruit equally from patient (rehabilitation setting) and non-patient (disability claimant) populations

Statistical Analysis Plan^{*)}

Classical psychometric evaluation

- Descriptive statistics
- Exploratory (confirmatory) factor analysis
- Convergent validity (SRH, WAI)

Item Response Theory (IRT) Modeling

- Graded Response Model
- Item fit
- Differential Item Functioning (DIF)

^{*)} McDonough et al. 2017
Marfeo et al. 2018

Current Status

- **Project began January 2019**
- **Contract Management with translators (ongoing)**
- **1st Forward Translation (complete)**
- **2nd Forward Translation (ongoing)**



**Thank you very much
for your attention!**